CLAIMS:

1. A surface plasmon sensor comprising:

a plurality of light supply means for irradiating a beam;

a plurality of surface plasmon resonance detection surfaces where the beam irradiated from the light supply means being incident to;

a plurality of light detection means for detecting the beam reflected at the surface plasmon resonance detection surface;

a plurality of reflective surfaces provided at respective optical paths from the light supply means to the light detection means, the reflective surfaces being arranged opposing to the respective surface plasmon resonance detection surfaces;

a wave formed multiwell formed with the surface plasmon resonance detection surfaces and the reflective surfaces; and

the light detection means positioned close to the light supply means.

2. The surface plasmon sensor according to Claim 1, wherein the wave formed multiwell is formed by arranging each said surface plasmon resonance detection surfaces and each said reflective surface alternately to be perpendicular to one another.

3. The surface plasmon sensor according to Claim 1 further comprising:

an optical unit unitarily including the light supply means and the light detection means; and

a detection chip including the multiwell, the detection chip detachably provided at the optical unit.

4. The surface plasmon sensor according to Claim 3, wherein the detection chip includes an optical path and the other portion charged with a material with a different refractive index from a material charged at the optical path.

5. The surface plasmon sensor according to Claim 1, wherein the light detection means includes a single element photodiode;

the single element photodiode detects intensities of the beam with a predetermined reflective angle, so that the surface plasmon sensor detects the materials to be detected

by analyzing the state of the intensity variation of the beam with a predetermined reflective angle.

6. The surface plasmon sensor according to Claim 1, wherein the light detection means includes a linear photodiode array;
the linear photodiode array detects the beams with variable reflective angles reflected at the surface plasmon resonance detection surface to detect a change of a surface plasmon resonance curve.

7 The surface plasmon sensor according to Claim 1 further comprising a polarizing filter for allowing only a polarized wave P to pass through.

8. The surface plasmon sensor according to Claim 1, wherein the light supply means and the light detection means are positioned at the identical plane surface.

9. A surface plasmon resonance measurement device comprising:
a surface plasmon sensor, the surface plasmon sensor comprising
a plurality of light supply means for irradiating a beam;
a plurality of surface plasmon resonance detection surfaces where the beam irradiated from the light supply means being incident to;
a plurality of light detection means for detecting the beam reflected at the surface plasmon resonance detection surface;
a plurality of reflective surfaces provided at respective optical paths from the light supply means to the light detection means, the reflective surfaces being arranged opposing to the respective surface plasmon resonance detection surfaces;
a wave formed multiwell formed with the surface plasmon resonance detection surfaces and the reflective surfaces; and
the light detection means positioned close to the light supply means;
a means for calculating a concentration of targeted ingredient by processing an optical signal from the surface plasmon sensor; and
a means for communicating with the outside.

10. The surface plasmon resonance measurement device according to Claim 9, wherein the wave formed multiwell is formed by arranging each said surface plasmon

resonance detection surfaces and each said reflective surface alternately t be perpendicular to one another.

11. The surface plasmon resonance measurement device according to Claim 9, wherein the surface plasmon sensor further comprises
an optical unit unitarily including the light supply means and the light detection means; and
a detection chip including the multiwell, the detection chip detachably provided at the optical unit.

12. The surface plasmon resonance measurement device according to Claim 9, wherein the detection chip includes an optical path and the other portion charged with a material with a different refractive index from a material charged at the optical path.

13. The surface plasmon resonance measurement device according to Claim 9, wherein the light detection means includes a single element photodiode;
the single element photodiode detects intensities of the beam with a predetermined reflective angle, so that the surface plasmon sensor detects the materials to be detected by analyzing the state of the intensity variation of the beam with a predetermined reflective angle.

14. The surface plasmon resonance measurement device according to Claim 9, wherein the light detection means includes a linear photodiode array;
the linear photodiode array detects the beams with variable reflective angles reflected at the surface plasmon resonance detection surface to detect a change of a surface plasmon resonance curve.

15. The surface plasmon resonance measurement device according to Claim 9, further comprising a polarizing filter for allowing only a polarized wave P to pass through.

16. A detection chip provided at a surface plasmon sensor comprising a multiw ll, th detection chip configured to be d tachable relative to an optical unit unitarily including a light supply means and a light detection means.

17. The detection chip according to Claim 16 further comprising:
a light path charged with a first material; and
the other portion charged with a second material having a different refractive index from the first material.